

Defending the Right to Repair: An Argument for Federal Legislation Guaranteeing the Right to Repair

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ABSTRACT: Over the past several years there has been a growing movement aimed at guaranteeing consumers the right to repair their products themselves after purchasing them, as opposed to paying original equipment manufacturers to repair the devices. Advocacy groups have successfully convinced state legislators to introduce these “Right to Repair” bills around the country, however none have successfully been enacted as law. These bills have been met with a mix of apathy from legislators and staunch resistance from corporations who have a vested interest in limiting the availability of repair options. Although there have been recent exemptions added to the Digital Millennium Copyright Act, the existing framework of copyright law and enforcement in the United States is insufficient to protect consumers’ right to do what they will with their products. Through End User License Agreements and other contracts, companies are effectively able to limit the right to repair via contract even if there were to be a drastic overhaul of our current copyright system. This Note argues that Congress should adopt legislation requiring companies to facilitate the repair process and should incorporate a “degree of reparability” requirement in the legislation to ensure the ability to repair remains an option for most consumers.

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I. INTRODUCTION

Fifteen years ago, it would have been hard to imagine the ubiquity of smartphones.¹ Now it is hard to imagine a day without one. However, if you have ever broken the screen of your phone, dropped it in a puddle, or otherwise damaged your phone, you understand how central to everyday life it has become. Your frustration might have been amplified when you learned how much it costs to fix your phone. While most companies offer warranty programs—Apple, for example, sells AppleCare+, which can be used to

1. According to the Pew Research Center, 81 percent of Americans own a smartphone. *Mobile Fact Sheet*, PEW RES. CTR. (June 12, 2019), <http://www.pewinternet.org/fact-sheet/mobile> [https://perma.cc/394X-NCSA]. This number has skyrocketed from only 35 percent when Pew conducted its first survey on ownership of smartphones in 2011. *Id.*

extend the warranty of your phone and cover accidental damage²—they do not cover all damage and certainly are not free. In the case that you purchased AppleCare, or your phone was not “accidentally” damaged, Apple will fix your screen for \$29 at an Apple Store or another authorized service provider.³ However, if you are outside of the scope of the warranty and did not purchase AppleCare, you may be looking at a \$129–\$329 bill to have Apple perform the repair.⁴ Not to mention, you may be facing a seven to nine day wait if your area does not provide “same-day screen repairs.”⁵

Luckily, there are other options. Websites like iFixit provide in-depth guides and step-by-step instructions on how to repair many different electronic devices.⁶ They will also sell you replacement parts from their store.⁷ Additionally, phone and tablet repair stores have been springing up across the country, where consumers can go to fix their devices. However, these repair outlets may actually be operating in a legally ambiguous area.⁸ In order to facilitate many repairs, repairers must circumvent software called Technological Protective Measures (“TPMs”). Until recently, however, the circumvention of this software was actually copyright infringement,⁹ even if

2. *AppleCare Products*, APPLE, <https://www.apple.com/support/products/iphone.html> [<https://perma.cc/UA5K-QW2F>].

3. *iPhone Screen Repair*, APPLE, <https://support.apple.com/iphone/repair/service/screen-replacement> [<https://perma.cc/G43J-YFBU>].

4. *Id.*

5. *Id.* It is worth mentioning that Apple is not alone in this practice. Google offers “Preferred Care” for purchase to extend the warranty of its Pixel line of phones. *Preferred Care*, GOOGLE, https://store.google.com/us/magazine/preferred_care [<https://perma.cc/62FV-SSDC>]. For Google’s latest phones—the Pixel 4 and Pixel 4 XL—the service costs \$149 per phone. *Id.* Although the plan does cover up to two incidents of accidental damage, Google will charge you an additional fee of between \$79 and \$149 to service your phone. *Get Preferred Care from the Google Store*, GOOGLE STORE HELP, <https://support.google.com/store/answer/7528518?hl=en> [<https://perma.cc/8ZWQ-ADYT>].

6. *Repair Guides*, IFIXIT, <https://www.ifixit.com/Guide> [<https://perma.cc/L7J3-4DZA>].

7. *Parts & Tools Store*, IFIXIT, <https://www.ifixit.com/Store> [<https://perma.cc/K6FM-PHFQ>].

8. Anjanette H. Raymond, *Pliers and Screwdrivers as Contributory Infringement Devices: Why Your Local Digital Repair Shop Might Be a Copyright Infringer, and Why We Must Stop the Craziest*, 12 NW. J. TECH. & INTELL. PROP. 67, 69 (2014) (discussing the dearth of manuals available to repair stores and how this has prompted “a niche market of illegal manual distribution”). Raymond elaborates on the problem facing repair shops but turns her focus to the environmental impact of disposing of old electronic products instead of repairing them. *Id.* at 75–76, 79–80. Her solution to the problems facing both the environment and repair shops involves the creation of legislation encouraging the reuse of older electronic devices and claims that in order to do so, “the law must do three things: (1) limit the copyright protections afforded manufacturers in manuals . . . (2) remove restrictions on unlocking cell phones and similar technology workarounds (such as jailbreaking apps) and (3) insist upon protections for the information contained within the trade-in device.” *Id.* at 83.

9. Chaim Gartenberg, *New Copyright Exemptions Let You Legally Repair Your Phone or Jailbreak Voice Assistants*, VERGE (Oct. 25, 2018, 3:58 PM), <https://www.theverge.com/circuitbreaker/2018/10/25/18024332/us-copyright-office-right-to-repair-dcma-exemptions> [<https://perma.cc/HQ74-G58H>].

you were only attempting to fix your own broken laptop or tractor. The Right to Repair movement sprang up in order to protect individuals' ability to repair their own products and the right of independent third-party businesses to repair them.¹⁰ This movement has been responsible for the introduction of many bills in state legislatures; however, they have been met with significant lobbying in opposition and none of the introduced bills have become law.¹¹

This Note argues that Congress should intervene and pass Right to Repair legislation at the federal level, instead of relying on state legislatures to protect the right to repair. Part II of this Note describes the origins of the Right to Repair movement and its importance to consumers. Part III comments on the shortcomings of existing copyright and contract law to protect the right to repair. Part IV argues why action at the federal level is necessary and suggests a model for Congress to follow when drafting its own Right to Repair legislation.

II. BACKGROUND: ORIGINS AND TRAJECTORY OF THE RIGHT TO REPAIR IN THE UNITED STATES

This Part describes the relevant background information necessary to grasp the implications of the Right to Repair movement and the scope of the problem. The current right to repair debate exists at an intersection of copyright law, financial interests of big business, environmental impact and fundamental concepts of ownership. While being able to repair, or even modify, your belongings in any way you see fit might seem inherent in ownership—after all, you bought them—many Original Equipment Manufacturers (“OEMs”) are, and have been, pushing back against the ability of consumers to repair or modify their property.¹² Section II.A introduces the Right to Repair movement and why consumers should care about it. Section II.B discusses the origin of the Right to Repair movement in the auto industry. Section III.C highlights the intersection between the right to repair and various aspects of copyright law. Section II.D outlines the current efforts taking place at the state level to pass Right to Repair legislation. Finally, Section II.E discusses how OEMs are actively taking steps to prevent states from passing Right to Repair legislation.

10. *About Us: History*, REPAIR.ORG, <https://repair.org/history> [<https://perma.cc/H2VQ-6MRM>].

11. As of this writing, 19 states have had “Right to Repair” or “Fair Repair” legislation introduced in their legislature. Jeremy Horwitz, *California Joins 18 States Proposing Right to Repair Act, Takes on New Lobbying Group*, VENTUREBEAT: MOBILE (Mar. 8, 2018, 1:42 PM), <https://venturebeat.com/2018/03/08/california-joins-18-states-proposing-right-to-repair-act-takes-on-new-lobbying-group> [<https://perma.cc/C8QF-YNWD>].

12. See *infra* Section II.E (discussing OEM lobbying against Right to Repair legislation in Nebraska).

A. CURRENT STATE OF REPAIRS: THE LIMITS PLACED ON CONSUMERS
IN THEIR ABILITIES TO REPAIR OR MODIFY THEIR
PROPERTY AND WHY IT MATTERS

In 2016, a number of iPhone users reported that their devices had “bricked”—i.e., the phone had become completely unusable “and turn[ed] it into an expensive brick”¹³—after replacing a screen or Touch ID home button themselves or at another location not authorized by Apple.¹⁴ This “Error 53” was actually a “security measure” implemented by Apple to prevent the devices from operating properly if they detected that third party components had been installed.¹⁵ Apple claimed this error was caused by a “security check[]” designed to prevent the Touch ID fingerprint reader from being exploited.¹⁶ Eventually, after complaints piled up, Apple released a software update which eliminated the error and restored the owner’s phone to working condition.¹⁷ As it turned out, Australian courts declared Error 53 a violation of Australian Consumer Law, and Apple was eventually fined AUD \$9 million in June of 2018 as a result.¹⁸

However, “features” like Error 53 are not limited to cell phones. Similar software protections are also found in John Deere tractors and prevent farmers from performing their own repairs on the expensive machines they purchased.¹⁹ John Deere has even gone a step further, requiring the farmers who purchase equipment from them to sign an End User License Agreement (“EULA”). An EULA is a type of “contract[] between software publishers and end users, which govern[s] the end user’s right to use software,”²⁰ and are thus extremely important as they prescribe what consumers may and may not do with the product. The John Deere EULA, which farmers are required to sign, “forbids nearly all repair and modification to farming equipment.”²¹

13. Chris Hoffman, *What Does “Bricking” a Device Mean?*, HOW-TO GEEK (Sept. 26, 2016, 5:36 PM), <https://www.howtogeek.com/126665/htg-explains-what-does-bricking-a-device-mean> [https://perma.cc/WYT6-ZGVA].

14. Jennifer Bisset, *Apple Fined \$6.6M in Australia After Error 53 Controversy*, CNET (June 18, 2018, 7:17 PM), <https://www.cnet.com/news/apple-bricked-our-phones-with-error-53-now-it-owes-6-8-million-in-australia> [https://perma.cc/49WX-V23F].

15. *Id.*

16. *Id.*

17. *Id.*

18. *Id.*

19. Jason Koebler, *Why American Farmers Are Hacking Their Tractors with Ukrainian Firmware*, VICE: MOTHERBOARD (Mar. 21, 2017, 3:17 PM), https://motherboard.vice.com/en_us/article/xykkkd/why-american-farmers-are-hacking-their-tractors-with-ukrainian-firmware [perma.cc/RS7Q-K38H].

20. MICHAEL L. RUSTAD, *SOFTWARE LICENSING: PRINCIPLES AND PRACTICAL STRATEGIES* 35 (2010).

21. *Id.*

When farmers agree to this EULA “[i]t means that only John Deere dealerships and ‘authorized’ repair shops can work on newer tractors.”²²

With the rise in popularity of software-enabled consumer products, these sorts of TPMs and Digital Rights Management (“DRM”) “features” have spread to a wide range of products available to consumers. For example, many people are familiar with the DRM technology in music and videos that prevents piracy; in 2014, Keurig went so far as to implement DRM protections in its coffeemakers to prevent the use of “unauthorized” coffee pods.²³

Aside from limiting what consumers can do with their property, TPMs, DRM features, and EULAs may be impacting the environment. The Environmental Protection Agency (“EPA”) reported that in 2015, Americans produced 3,100,000 tons of “e-waste.”²⁴ “E-waste” describes “consumer and business electronic equipment that is near or at the end of its useful life,” but the term does not have any formal or specific definition.²⁵ According to a 2017 report, Americans kept the same smartphone for just under two years before replacing it.²⁶ Advocates for Right to Repair legislation argue that facilitating the repair process could help cut down on the amount of e-waste.²⁷ Presumably, if Americans were able to more easily repair or upgrade their phones, or other consumer products, the nation could help to reverse the growing “disposable culture” created by rapid advances in technology.

The “Right to Repair” movement that has emerged across the United States advocates to prevent “features” like Error 53 from disabling phones in the future, to help reduce e-waste, and to preserve consumers’ rights to fix their phones and other products in any way they see fit.²⁸ Kyle Wiens, an advocate for the right to repair, and founder of iFixit.com, described the Right to Repair laws generally, stating they “typically require manufacturers to publish repair manuals and sell the parts, diagnostic software, and tools

22. *Id.*

23. Josh Dzieza, *Inside Keurig’s Plan to Stop You from Buying Knockoff K-Cups*, VERGE (June 30, 2014, 12:29 PM), <https://www.theverge.com/2014/6/30/5857030/keurig-digital-rights-management-coffee-pod-pirates> [<https://perma.cc/MX7P-8JBG>].

24. *Durable Goods: Product-Specific Data*, EPA, <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/durable-goods-product-specific-data#Electronics> [<https://perma.cc/A99C-AZD4>].

25. *What Is E-Waste?*, CALRECYCLE, <https://www.calrecycle.ca.gov/electronics/whatisewaste> [<https://perma.cc/TD7Q-QE5G>] (last updated Jan. 9, 2020).

26. KANTAR WORLDPANEL, AN INCREDIBLE DECADE FOR THE SMARTPHONE: WHAT’S NEXT?: THE FUTURE OF MOBILE IS IN COMBINING DEVICES, CONTENT, AND SERVICES 3 (2017), *available at* <https://www.kantarworldpanel.com/global/News/2017-smartphone-industry-insight-report> [<https://perma.cc/Q5U7-TBYD>]. On average, Americans keep their smartphones for 22.7 months. *Id.*

27. *Repair Revives End-of-Life Electronics*, REPAIR.ORG, <https://repair.org/the-environment> [<https://perma.cc/7L93-BLYS>].

28. *See supra* note 11 and accompanying text.

needed to fix their products”²⁹ with the goal being that “consumers can repair their own devices, or pay an independent outfit to do so. Simply put, these bills argue that you bought the device, and you should be able to repair it.”³⁰ While these bills are only now gaining momentum and notoriety across the country, the Right to Repair movement began when Massachusetts passed the first Right to Repair act covering vehicle repairs in 2012.³¹

B. ORIGINS OF THE RIGHT TO REPAIR MOVEMENT

In 2012, Massachusetts became the first state to take action preserving the right to repair when it passed the “Act Protecting Motor Vehicle Owners and Small Businesses in Repairing Motor Vehicles.”³² The Massachusetts bill was drafted specifically to cover only automotive repairs; however, it is structured in much the same way as the current Right to Repair bills. It required that auto manufacturers provide or sell to independent repair shops and owners “the same diagnostic and repair information, including repair technical updates, that such manufacturer makes available to its dealers.”³³ Although technology and agricultural companies have overwhelmingly been opposed to the Right to Repair movement, the auto industry has taken a different tack.

In 2014, the Automotive Aftermarket Industry Association, the Coalition for Auto Repair Equality, the Alliance of Automobile Manufacturers, and the Association of Global Automakers entered into a memorandum of understanding concerning the automotive Right to Repair movement.³⁴ This memorandum of understanding effectively made the Massachusetts automotive right to repair legislation apply nationwide, because it required that “all auto companies . . . make their diagnostic codes and repair data available in a common format by the 2018 model year, as the Massachusetts law requires.”³⁵ According to Mike Stanton, president of Global Automakers,

29. Kyle Wiens, *You Bought That Gadget, and Dammit, You Should Be Able to Fix It*, WIRED (Mar. 22, 2017, 6:30 AM), <https://www.wired.com/2017/03/right-to-repair-laws> [<https://perma.cc/3GVP-FZWN>].

30. *Id.*

31. See Paul Roberts, *Massachusetts on Front Lines (Again) in Battle for Right to Repair*, SECURITY LEDGER (Aug. 28, 2017, 2:55 PM), <https://securityledger.com/2017/08/massachusetts-on-front-lines-again-in-battle-for-right-to-repair> [<https://perma.cc/7NSR-MCCX>] (taking the position that current Right to Repair bills are a continuation of the automotive Right to Repair bill passed in 2012 in Massachusetts).

32. An Act Protecting Motor Vehicle Owners and Small Businesses in Repairing Motor Vehicles, ch. 241, § (2)(a), 2012 Mass. Acts (2012).

33. *Id.*

34. Clifford Atiyeh, *Automakers Agree to Fix Your Car Anywhere in “Right to Repair” Pledge*, CAR & DRIVER (Jan. 29, 2014), <https://www.caranddriver.com/news/automakers-agree-to-fix-your-car-anywhere-in-right-to-repair-pledge> [<https://perma.cc/ES88-H7B7>].

35. Gabe Nelson, *Automakers Agree to ‘Right to Repair’ Deal*, AUTOMOTIVE NEWS (Jan. 25, 2014, 12:00 AM), <http://www.autonews.com/article/20140125/RETAIL05/301279936/automakers-agree-to-right-to-repair-deal> [<https://perma.cc/5BQC-YRTW>].

this memorandum of understanding prevented “[a] patchwork of 50 differing state bills, each with its own interpretations and compliance parameters” and instead “provides the uniform clarity our industry needs.”³⁶

C. *AT THE INTERSECTION OF RIGHT TO REPAIR AND COPYRIGHT LAW*

While the automotive legislation passed in Massachusetts—later incorporated nationwide by the automotive industry—was not focused on the complications involving embedded software and copyright laws, in 2016 the Copyright Office issued a report on Software-Enabled Consumer Products exploring ongoing legal issues with software-enabled products.³⁷

The Copyright Office conducted a detailed investigation into the state of copyright law in regard to the ability to repair, resell, and modify products which have embedded software in them.³⁸ The study focused on “consumer-grade, rather than industrial devices,” noting that industrial devices “may be subject to contractual and licensing agreements between parties with similar bargaining power.”³⁹

In terms of repair and “tinkering,” the Copyright Office determined:

[E]stablishing a new statutory framework explicitly permitting repair and tinkering does not appear to be necessary at this time. Properly understood, existing copyright law doctrines—including the idea/expression dichotomy, fair use, merger, *scènes à faire*, and section 117 [of Title 17 U.S.C.]—should continue to facilitate these types of activities.⁴⁰

The Copyright Office noted that four rights of owners established “under Section 106 of the Copyright Act” may be implicated when owners or others seek “to repair or tinker with” products containing embedded software.⁴¹ While it did note that these rights might be implicated, and that there had

36. Atiyeh, *supra* note 34.

37. See generally U.S. COPYRIGHT OFFICE, SOFTWARE-ENABLED CONSUMER PRODUCTS: A REPORT OF THE REGISTER OF COPYRIGHTS (2016), available at <https://www.copyright.gov/policy/software/software-full-report.pdf> [<https://perma.cc/N7VE-7AX2>] (outlining the current state of software-enabled products and detailing the current suggestions of the Copyright Office in terms of legislative changes).

38. *Id.* at 5–6.

39. *Id.* at 9.

40. *Id.* at ii.

41. *Id.* at 31. The four rights that are implicated are: (1) the “reproduction right is implicated when a copy of a program is made and transferred into a test environment where it can be further evaluated, as is customary in repair and tinkering”; (2) the “right to prepare derivative works potentially is implicated if a user decides to modify the existing code in some respect, add new lines of code, or develop entirely new programs that interoperate with the existing program”; (3) the “distribution right is implicated by a user’s decision to sell a newly-modified device or replacement part to a third party”; and (4) the “display right potentially is implicated if a user decides to post code for an embedded program on a website or other public forum.” *Id.*

been lawsuits regarding these rights, “the [Copyright] Office [did] not recommend[] any modifications to the Copyright Act to address concerns regarding repair and tinkering.”⁴² Instead, the Copyright Office recommended that the issues be resolved under the existing framework of copyright and contract law.⁴³

Finally, the report considered EULAs and how manufacturers could use them “to restrict the ability of consumers to engage in legitimate activities involving their software-enabled products.”⁴⁴ However, the Copyright Office again concluded “any concerns about EULAs for embedded software cannot be fully resolved through copyright.”⁴⁵ The Copyright Office asserted that the existing framework of copyright laws address the copyright concerns, while state contract law is substantially the law responsible for enforcing the terms of the EULAs.⁴⁶ The Copyright Office concluded that, in conjunction with contract law, “the existing, flexible structure of the Copyright Act will serve well the needs of both copyright owners and users of software embedded in everyday products,” and did “not recommend any legislative changes at this time.”⁴⁷

D. THE CURRENT PUSH FOR RIGHT TO REPAIR LEGISLATION IN STATE LEGISLATURES

While the Copyright Office did not determine any substantive changes should be made to the law, many advocates and legislators disagree, as 19 states have introduced Right to Repair legislation.⁴⁸ Functionally, the Right to Repair bills that states have introduced are successors to the Massachusetts automotive version,⁴⁹ and advocate for many of the same protections for consumers and independent repair shops. However, the current bills have demonstrated an increased understanding of the necessity to access software contained within the products they seek to regulate. Current Right to Repair

42. *Id.* at 32–33.

43. *Id.* at 33. While the Copyright Office acknowledged that licensing agreements could be used to restrict repairs, they claimed “market forces may discourage copyright owners from attempting to prevent independent repair activities.” *Id.*

44. *Id.* at 60.

45. *Id.* at 63.

46. *Id.*

47. *Id.* at 69.

48. Horwitz, *supra* note 11.

49. See Andy Metzger, *Proposal Expands ‘Right to Repair’ Movement to Electronics in Mass.*, TELEGRAM.COM, <http://www.telegram.com/news/20170927/proposal-expands-right-to-repair-movement-to-electronics-in-mass> [https://perma.cc/M2SD-YXX8] (last updated Sept. 27, 2017, 10:41 AM) (forwarding the position that the automotive Right to Repair legislation provides the framework for broader Right to Repair legislation now being considered); see also Roberts, *supra* note 31 (taking the position that current Right to Repair bills are a continuation of the automotive Right to Repair bill passed in 2012 in Massachusetts).

bills have taken at least four different forms which are represented by Wyoming, California, Iowa, and Washington's respective bills.

In Wyoming, State Representative Hunt introduced Right to Repair legislation in January 2017.⁵⁰ This legislation is representative of the approach narrowly aimed at repairing farm equipment.⁵¹ In California, Assemblywoman Eggman introduced Right to Repair legislation in March of 2018.⁵² This legislation would cover farm equipment and consumer electronics; however, it would not apply to motor vehicle dealers or manufacturers in the same way.⁵³ State Representatives Jacoby, Mascher, and Gaines introduced Right to Repair legislation in Iowa in March of 2017.⁵⁴ Unlike the California or Wyoming legislation, Iowa's version does not seem to exclude motor vehicles, nor farm equipment. Instead, it is focused on "digital electronic products," which the bill defines as "a part or product containing a microprocessor originally manufactured for distribution and sale in the United States."⁵⁵ This would ostensibly include everything from a smartphone or computer to household appliances and cars, trucks, or tractors. Finally, the Right to Repair Bill introduced in Washington in 2018 represents the fourth approach that "goes [a step] further than any" of the other bills yet introduced—it would prevent the sale of devices in that state which are not easily able to be repaired "by . . . independent repair provider[s]."⁵⁶ Washington's focus on legislating

50. H.B. 0199, 2017 Leg., Gen. Sess. (Wyo. 2017).

51. *Id.* This approach was also taken in Kansas, where the bill was tailored specifically to cover only farm equipment. H.B. 2122, 2017 Leg., 2017 Sess. (Kan. 2017). This bill was introduced in January of 2017 as well, but it died in committee in May of 2018. *HB 2122*, KAN. 2017–2018 LEGIS. SESSIONS (Mar. 2, 2020), http://kslegislature.org/li_2018/b2017_18/measure/hb2122 [<https://perma.cc/T8SF-T62N>]. Section IV.B will discuss the inadequacies of this narrowly tailored approach and provide suggestions on how to improve the legislation.

52. Press Release, Cal. State Assembly, Eggman Introduces Legislation to Create a "Right to Repair" for Elecs. (Mar. 7, 2018), *available at* <https://a13.asmdc.org/press-releases/20180307-eggman-introduces-legislation-create-right-repair-electronics> [<https://perma.cc/PXK3-LNCX>].

53. Assemb. B. 2110, 2017 Leg., Reg. Sess. § 42488.4(c) (Cal. 2018) (excluding motor vehicle manufacturers from the OEMs covered by the bill).

54. *Bill History for House File 556*, IOWA LEGISLATURE, <https://www.legis.iowa.gov/legislation/billTracking/billHistory?billName=HF%20556&ga=87> [<https://perma.cc/U8QP-HBK9>].

55. H.F. 556, 87th Gen. Assemb., Reg. Sess. § 1(3) (Iowa 2017). A microprocessor is defined as "a component that performs the instructions and tasks involved in computer processing. In a computer system, the microprocessor is the central unit that executes and manages the logical instructions passed to it." *Microprocessor*, TECHOPEDIA, <https://www.techopedia.com/definition/2874/microprocessor> [<https://perma.cc/UKQ7-8TMS>] (last updated June 25, 2012). It "is the most important unit within a computer system and is responsible for" making the computer system function. *Id.*

56. Jason Koebler, *Washington Bill Would Make it Illegal to Sell Electronics That Don't Have Easily Replaceable Batteries*, VICE: MOTHERBOARD (Jan. 26, 2018, 8:36 AM), https://motherboard.vice.com/en_us/article/zmq449/washington-right-to-repair-iphone-cpu-throttling [<https://perma.cc/RP3Y-7G79>].

certain levels of reparability makes it more comprehensive than any other bill yet proposed.

Although these Right to Repair bills have been introduced in 19 states, none have become law.⁵⁷ Advocates were hopeful California might be the first to pass this type of legislation, citing their consumer and environmentally friendly disposition,⁵⁸ however, the bill has also become stagnant.⁵⁹ The failure of these bills is primarily because there has been significant lobbying against them by OEMs and other parties who have a vested interest in limiting the availability of third-party repairs.

E. OEMS ARE ACTIVELY LOBBYING AGAINST THE CONSUMER RIGHT TO REPAIR

At stake in the debate over the right to repair are the competing interests of consumers and manufacturers. For consumers, the battle is centered on the idea that after an individual has purchased a product, that individual should be able to do with it what they will. Kyle Wiens explains the issue succinctly stating:

[O]nce we buy an object—any object—we should own it. We should be able to lift the hood, unlock it, modify it, repair it . . . without asking for permission from the manufacturer. But we really don't own our stuff anymore (at least not fully); the manufacturers do. Because modifying modern objects requires access to information: code, service manuals, error codes, and diagnostic tools.⁶⁰

Manufacturers like John Deere and Apple have a vested interest in preventing the right to repair legislation from becoming law because it could seriously decrease their profits. Not only would Right to Repair legislation limit the amount of money they make from actually making repairs (as customers could turn to independent shops or do it themselves), but it would also make it easier for consumers to repair their current devices and products, rather than upgrading to a new device.⁶¹ Apart from money, OEMs have little to lose

57. Horwitz, *supra* note 11.

58. *Id.*

59. The Act appears to have fizzled out, as the last action taken regarding it was on November 30, 2018, and the hearing it was scheduled for was cancelled by Assembly Member Eggman, the bill's author, in mid-April that year. *Bill History: AB-2110 Electronics: Right to Repair Act.*, CAL. LEGIS. INFO., https://leginfo.legislature.ca.gov/faces/billHistoryClient.xhtml?bill_id=201720180AB2110 [https://perma.cc/T87P-AALC].

60. Kyle Wiens, *Forget the Cellphone Fight—We Should Be Allowed to Unlock Everything We Own*, WIRED (Mar. 18, 2013, 9:30 AM) (second alteration in original) (emphases omitted), <https://www.wired.com/2013/03/you-dont-own-your-cellphones-or-your-cars> [https://perma.cc/UK2W-UWSR].

61. Bloomberg recently revealed that Apple has explicitly told its staff “to push iPhone upgrades to consumers with out-of-warranty devices” and that “[s]enior sales staff had to make sure other retail workers were suggesting upgrades.” Mark Gurman, *Apple Names Third Retail Chief in Seven Years for Post-iPhone Era*, BLOOMBERG (Feb. 5, 2019, 8:34 PM), <https://>

if Right to Repair legislation were to be enacted. The proposed iterations of right to repair legislation only require OEMs to make available the parts and products that they already make available to their authorized service providers⁶² and do not require them to disclose any information protected by trade secret law.⁶³ Despite this fact, OEMs have continued to actively resist the passage of Right to Repair legislation.

In Nebraska, the Right to Repair Act was met with staunch opposition by tech companies like Apple and AT&T, and also from John Deere and other agriculturally-focused OEMs and trade organizations.⁶⁴ This level of opposition is representative of the challenges facing the Right to Repair movement nationwide. According to Senator Brasch, who introduced Nebraska's bill, Apple sent its representative Steve Kester to speak with her.⁶⁵ Kester reportedly told Senator Brasch that if Nebraska enacted a Right to Repair law, it would become a "mecca for bad actors" and "hackers."⁶⁶

These technology and equipment companies were joined by groups like the Association of Equipment Manufacturers ("AEM") and Equipment Dealers Association ("EDA") who jointly authored a "Statement of Principles" which frames the "right to repair" movement narrowly and not as a "right to modify" movement.⁶⁷ Their website claims that the right to repair laws proposed in state legislatures "would jeopardize the safety and sustainability regulations governing modern farm equipment."⁶⁸ The website jointly operated by AEM and EDA claims that, in their current form, the right to repair laws jeopardize: (1) safety, as users would be able to override safety features; (2) sustainability, as emissions standards could be circumvented; and

www.bloomberg.com/news/articles/2019-02-06/apple-taps-first-insider-to-remake-retail-for-post-iphone-era [<https://perma.cc/XBT2-4HP2>].

62. See, e.g., H.B. 2279, 65th Leg., 2018 Reg. Sess. § 2(13) (Wash. 2018) ("'Part' or 'service part' means any replacement part, either new or used, made available by the original manufacturer to the authorized repair provider for purposes of effecting repair.").

63. See, e.g., *id.* § 3(2) ("Nothing in this chapter may be construed to require an original manufacturer to divulge a trade secret.").

64. Alex Fitzpatrick, *Hand Me That Wrench: Farmers and Apple Fight Over the Toolbox*, TIME (June 22, 2017), <http://time.com/4828099/farmers-and-apple-fight-over-the-toolbox> [<https://perma.cc/C7G6-5UFC>].

65. Jason Koebler, *Apple Tells Lawmaker That Right to Repair iPhones Will Turn Nebraska into a 'Mecca' for Hackers*, VICE: MOTHERBOARD (Feb. 17, 2017, 5:21 PM), https://motherboard.vice.com/en_us/article/pgxgpg/apple-tells-lawmaker-that-right-to-repair-iphones-will-turn-nebraska-into-a-mecca-for-hackers [<https://perma.cc/AK2W-QFEG>].

66. *Id.*

67. ASS'N OF EQUIP. MFRS. & EQUIP. DEALERS ASS'N, FARM EQUIPMENT MANUFACTURERS AND DEALERS ARE COMMITTED TO PROVIDING MAINTENANCE, DIAGNOSTIC, AND REPAIR TOOLS TO END USERS, available at https://r2rsolutions.org/documents/4/r2r_statement_of_principles.pdf [<https://perma.cc/XD5S-J6LE>].

68. Learn About "Right to Repair," R2R SOLUTIONS, <http://r2rsolutions.org/right-to-repair-legislation> [<https://perma.cc/CD9A-Q73H>].

(3) innovation, as permitting “access to source code would jeopardize manufacturers’ intellectual property and stifle innovation.”⁶⁹

When the Nebraska legislature held a public hearing in March of 2017 to discuss its (then) pending Right to Repair bill, several lobbying groups turned up to oppose the bill. George Whitaker testified on behalf of CNH Industrial, which manufactures agricultural equipment.⁷⁰ Whitaker claimed that CNH Industrial had been actively trying to work with farmers on solving the issues this bill was aimed at tackling, but stated CNH “strongly believe[s] that industry is best suited to solve this issue without legislative intervention and we have a history in our industry of solving consumer issues through our own cooperative efforts.”⁷¹ Whitaker continued, saying that in an effort to tackle this problem, CNH provided farmers with the diagnostic software they were requesting, and pointed out that one of the farmers disabled the emissions controls they had put in place.⁷² He concluded by stating that CNH was working on remote options for diagnostics, which would ameliorate some of the issues raised and pleaded for the committee to permit the industry to solve this issue without legislation.⁷³

Kim Robak testified on behalf of AT&T and made arguments about the impact this would have on small and large businesses in Nebraska.⁷⁴ She argued that start-ups, concerned about protecting their inventions, would simply not operate in Nebraska and big manufacturers would be willing to take a hit to their business by not offering their products for sale within the state.⁷⁵ She concluded her argument with the claim that

it doesn’t make a whole lot of sense to introduce this bill and pass it only in the state of Nebraska because it does harm those individuals who create these products and have to provide those codes. [It m]akes a whole lot of sense, if you want to do it, to look at this from a federal level.⁷⁶

The lobbying efforts in Nebraska seemed to be effective, as the bill was indefinitely postponed in 2018.⁷⁷

69. *Id.*

70. *Transcript Prepared by the Clerk of the Legislature: Hearing on LB67, LB434, LB226, LB658, LB516, and LB656 Before the Judiciary Committee*, 105th Leg., 1st Sess. 54 (Neb. 2017) [hereinafter *Nebraska Hearing*], available at <https://www.nebraskalegislature.gov/FloorDocs/105/PDF/Transcripts/Judiciary/2017-03-09.pdf> [<https://perma.cc/BX79-AW9A>] (statement of George Whitaker, Representative of CNH Industrial).

71. *Id.* at 55.

72. *Id.*

73. *Id.*

74. *Id.* at 56 (statement of Kim Robak, Representative of AT&T).

75. *Id.*

76. *Id.*

77. *LB67—Adopt the Fair Repair Act*, NEB. LEGISLATURE, https://nebraskalegislature.gov/bills/view_bill.php?DocumentID=31155 [<https://perma.cc/Z9Z8-92VN>].

The once-promising legislation in California seems to have met a different, but equally disappointing end. Recently, representatives of the California Farm Bureau Federation signed a memorandum of understanding with the Far West Equipment Dealers Association, which purported to “make it easier for farmers to diagnose and repair equipment without accessing or downloading proprietary software or code.”⁷⁸ The proponents claim to be picking up where the legislation left off, after failing to advance past the introductory stage⁷⁹ and the California Farm Bureau Federation even went so far as to call this a “right to repair” agreement in its press release issued on September 7, 2018.⁸⁰ While this agreement allows for farmers/owners to have “access to service manuals, product guides, on-board diagnostics and other information that would help a farmer or rancher to identify or repair problems with the machinery”⁸¹ and is reminiscent of the memorandum of understanding entered into by the automotive industry and repair advocates, it contains some significant restrictions. Notably, “[s]ource code for proprietary software would not be accessible, and owners would not be able to change equipment in ways that would affect compliance with safety or emissions regulations.”⁸² Further, this agreement will not take effect until January 1, 2021⁸³ and does not include any mention of the actual selling of repair parts, while “also contain[ing] several carve-outs that allow tractor manufacturers to continue using software locks that could prevent repair.”⁸⁴ Critics emphasize that the agreement reached in California only covered “concessions the Equipment Dealers Association already agreed to, without seemingly getting anything else out of it, and without even getting it to move up its 2021 timeline.”⁸⁵ Finally, other commentators point out that this “agreement” did not touch on the problems regarding DRM.⁸⁶

The current state of the Right to Repair movement is disconcerting. While advocates have been actively introducing bills, there has yet to be any

78. *Agreement Streamlines Repair of High-Tech Farm Equipment*, AGNET WEST (Sept. 7, 2018), <http://agnetwest.com/agreement-repair-high-tech-farm-equipment> [<https://perma.cc/Q9TL-NREE>].

79. *Id.*

80. *Id.*

81. *Id.*

82. *Id.*

83. *Id.*

84. Jason Koebler, *Farmer Lobbying Group Sells Out Farmers, Helps Enshrine John Deere's Tractor Repair Monopoly*, VICE: MOTHERBOARD (Sept. 11, 2018, 8:47 AM), https://motherboard.vice.com/en_us/article/kz5qgw/california-farm-bureau-john-deere-tractor-hacking-right-to-repair [<https://perma.cc/33R8-RQES>].

85. *Id.*

86. Karl Bode, *Farmer Lobbying Group Accused of Selling Out Farmers on Right to Repair Laws*, TECHDIRT (Sept. 12, 2018, 11:49 AM), <https://www.techdirt.com/articles/20180911/15241040618/farmer-lobbying-group-accused-selling-out-farmers-right-to-repair-laws.shtml> [<https://perma.cc/8JY5-AREA>].

meaningful legislation passed or any substantive agreements entered into with major industry players. Farmers and consumers of electronic goods alike are stuck in purgatory when it comes to ensuring their right to repair—and their right to use their property in the way they choose—is protected.

III. THE SHORTCOMINGS OF COPYRIGHT LAW AND CONTRACT LAW IN PROTECTING THE RIGHT TO REPAIR

This Part begins with an explanation of the origins of the Digital Millennium Copyright Act (“DMCA”) and the recent exemptions granted to the circumvention of Technological Protective Measures (“TPMs”) in consumer products for the purposes of repair. It explains why the recent exemptions are insufficient to address the problems surrounding the right to repair movement because of how End User License Agreements (“EULAs”)—which are included with many products—can be used by companies to prevent TPM circumvention that would be otherwise permissible under the DMCA and the Copyright Act. It further highlights that courts have been receptive to lawsuits involving EULA violations and that the end result of this effectively expands the DMCA through contracts and enables companies to limit average users from repairing or modifying their products. This Part then provides a summary of the key caselaw dealing with TPM circumvention and EULAs demonstrating that this is more than a hypothetical problem. It concludes with a picture of the current state of the right to repair in the United States.

A. *THE ORIGINS OF THE DMCA AND ITS IMPACT ON TPM CIRCUMVENTION*

The DMCA was enacted in 1998 in an effort “to facilitate the robust development and world-wide expansion of electronic commerce, communications, research, development, and education in the digital age.”⁸⁷ The Act contained various updates to U.S. copyright law to better suit it to dealing with copyright violations in the digital age. Specifically, Title I of the DMCA—which includes § 1201—was designed to “enforc[e] private parties’ use of technological protection measures with legal sanctions for circumvention and for producing and distributing products or providing services that are aimed at circumventing technological protection measures.”⁸⁸ By creating sanctions for TPM circumvention, § 1201 stifled the independent repair process by limiting the steps individuals can take to repair their own devices or to help others repair their devices. However, § 1201(a)(1)(C) of the DMCA grants the Register of Copyrights the power to suggest exemptions to § 1201.⁸⁹

87. S. REP. NO. 105-190, at 1–2 (1998).

88. *Id.* at 11.

89. 17 U.S.C. § 1201(a)(1)(C) (2012) (“During the 2-year period described in subparagraph (A), and during each succeeding 3-year period, the Librarian of Congress, upon

The Register of Copyrights makes these suggestions to the Librarian of Congress, who may either accept them or reject them after considering a number of factors laid out by the statute.⁹⁰ If the Librarian, after considering the relevant factors, determines that an exemption should be granted to the suggested uses, the Librarian may grant the exemptions for the following three years.⁹¹

In 2018, utilizing the power granted under the § 1201(a) of the DMCA, the Register of Copyrights recommended to the Librarian of Congress that exemptions be granted to allow for circumvention of TPMs in:

lawfully acquired motorized land vehicle[s] . . . when circumvention is a necessary step to allow the diagnosis, repair, or lawful modification of a vehicle function, where such circumvention does not constitute a violation of applicable law, including without limitation regulations promulgated by the Department of Transportation or the Environmental Protection Agency, and is not accomplished for the purpose of gaining unauthorized access to other copyrighted works.⁹²

Further, the Register of Copyrights recommended a similar exemption for circumvention of TPMs in “lawfully acquired smartphone[s] or home appliance[s] or home system[s], such as a refrigerator, thermostat, HVAC, or electrical system[] when” it was necessary for repair or maintenance.⁹³ The Librarian of Congress adopted the recommendations, thus codifying the exemptions for at least the next three years.⁹⁴

the recommendation of the Register of Copyrights, who shall consult with the Assistant Secretary for Communications and Information of the Department of Commerce and report and comment on his or her views in making such recommendation, shall make the determination in a rulemaking proceeding for purposes of subparagraph (B) of whether persons who are users of a copyrighted work are, or are likely to be in the succeeding 3-year period, adversely affected by the prohibition under subparagraph (A) in their ability to make noninfringing uses under this title of a particular class of copyrighted works.”).

90. *Id.* Section 1201(a)(1)(C) lists the following factors for the Librarian of Congress to review when considering whether or not to grant the exemptions:

(i) the availability for use of copyrighted works; (ii) the availability for use of works for nonprofit archival, preservation, and educational purposes; (iii) the impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or research; (iv) the effect of circumvention of technological measures on the market for or value of copyrighted works; and (v) such other factors as the Librarian considers appropriate.

Id.

91. *Id.*

92. 37 C.F.R. § 201.40(b)(9) (2019).

93. *Id.* § 201.40(b)(10).

94. Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 83 Fed. Reg. 54,010, 54,028 (Oct. 26, 2018) (codified at 37 C.F.R. pt. 201).

These triennial exemptions, however, leave much to be desired. Commentators have pointed out that these exemptions specifically excluded the ability to circumvent TPMs in gaming consoles⁹⁵ and, while land vehicles like tractors and cars are exempted, it leaves boat and airplane owners without coverage.⁹⁶ More importantly, the exemptions do not cover the “‘trafficking’ in [TPM] circumvention tools.”⁹⁷ As a result, “you can develop the [circumvention] tools to repair things yourself, and folks can pay you to do those repairs for them, but you can’t distribute or sell those tools to others.”⁹⁸ This is a crucial limitation as it performs a “gatekeeping” function to prevent average users—and even most above-average users—from performing repairs. Without an exemption for “trafficking,” individuals would be forced to code or design their own TPM circumvention tools before they can repair their device.

Even if the Copyright Office and the Librarian of Congress had the desire to grant an exemption to the “trafficking” of TPM circumvention tools, it is beyond the scope of their power. Under the current provisions in § 1201, they are prohibited from granting exemptions regarding the “trafficking” of TPM circumvention tools.⁹⁹ Thus, the Copyright Office and the Librarian of Congress have gone as far as they possibly can to protect individuals’ right to repair certain products. In order for more meaningful protections to be granted, legislative action is needed due to the current inability to exempt “trafficking” of vital TPM circumvention software.

B. EULAS AND CONTRACT LAW AS A METHOD OF POLICING TPM CIRCUMVENTION

If Congress delegated to the Register of Copyrights and the Librarian of Congress the authority to allow exemptions to the “trafficking” of TPM circumvention software, this might facilitate the repair process for all those who are unable to code their own TPM circumvention software. That said, this

95. This is notable due to Sony’s history with circumvention of TPMs in their PlayStation 3 gaming console. George Hotz, also known as GeoHot, was sued by Sony after posting a PS3 jailbreak online. David Kravets, *Sony Settles PlayStation Hacking Lawsuit*, WIRED (Apr. 11, 2011, 1:45 PM), <https://www.wired.com/2011/04/sony-settles-ps3-lawsuit> [<https://perma.cc/A4CF-KC9S>]. Hotz and Sony eventually settled the lawsuit, however it dealt with precisely the same section of the DMCA at issue in the Right to Repair movement regarding trafficking in TPM circumvention devices. *See id.*

96. Kyle Wiens, *Copyright Office Ruling Issues Sweeping Right to Repair Reforms*, iFIXIT (Oct. 25, 2018), <https://www.ifixit.com/News/11951/1201-copyright-final-rule> [<https://perma.cc/DVJ6-FFTQ>].

97. *Id.*

98. Gartenberg, *supra* note 9.

99. 17 U.S.C. § 1201 (2012). Section 1201(a)(1)(C), which grants the authority to the Register of Copyrights and Librarian of Congress to create the triennial exemptions, specifically states that it applies only to subparagraph (A), which covers the circumvention of TPMs. *Id.* § 1201(a)(1)(C). Sections 1201(a)(2) and 1201(b) cover the trafficking in TPM circumvention tools. *Id.* § 1201(a)(2), (b). There is no analogous provision in either § 1201(a)(2) or (b) which would allow for exemptions to be adopted. *See id.*

modicum of reform would be thoroughly insufficient to ensure a robust right to repair in the United States. An analysis of the intersection between copyright enforcement and state contract law elucidates the problem.

In its 2016 report on software-enabled consumer products, the U.S. Copyright Office noted that it felt “that current copyright law, properly interpreted, may provide relief for many repair and tinkering activities.”¹⁰⁰ It went on to state that some restrictions on repair and tinkering “may only be enforceable as a matter of contract[,]” suggesting that it was outside the scope of their power to address this issue.¹⁰¹ Later, the report also addressed EULAs and acknowledged reform proponents’ “concern[s] that while copyright law may authorize certain uses of embedded software, license agreements can be used to prevent those same uses.”¹⁰² The Copyright Office went so far as to say that “any concerns about EULAs for embedded software cannot be fully resolved through copyright.”¹⁰³ This conflict between copyright law and EULAs creates a problem that becomes clear when looking at the sorts of uses permissible under the Copyright Act and what can be enforced via EULAs.

Section 301 of the Copyright Act preempts certain state claims related to potential copyright infringement. It states:

On and after January 1, 1978, all legal or equitable rights *that are equivalent to any of the exclusive rights within the general scope of copyright* as specified by section 106 in works of authorship that are fixed in a tangible medium of expression and come within the subject matter of copyright as specified by sections 102 and 103, whether created before or after that date and whether published or unpublished, are governed exclusively by this title. Thereafter, no person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State.¹⁰⁴

Additionally, § 106 of the Copyright Act establishes that “the owner of copyright under this title has the exclusive rights to do and to authorize . . . [another] to prepare derivative works based upon the copyrighted work.”¹⁰⁵

100. U.S. COPYRIGHT OFFICE, *supra* note 37, at 33.

101. *See id.*

102. *Id.* at 60.

103. *Id.* at 63.

104. 17 U.S.C. § 301(a) (2012) (emphasis added).

105. *Id.* § 106(2) (2012). The other exclusive rights created under § 106 include

(1) to reproduce the copyrighted work in copies or phonorecords . . . (3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending; (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly; (5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or

In an article touching on the intersection of copyright law and contract law, one commentator noted that “[b]ecause of the difficulty in enforcing copyright in a digital age, some copyright owners have abandoned the current system in favor of private rights management and contract law, protecting their intellectual property through licensing agreements that, in some cases, take away the rights given by copyright law.”¹⁰⁶ The author goes on to assert “that the current application of § 301 preemption is not sufficient to protect long-standing principles in the copyright law that are at risk from the increased use of contracts to displace default copyright rules” and instead advocates that courts should rely on the Supremacy Clause of the U.S. Constitution to implement preemption in order to protect copyright law.¹⁰⁷ This Note, instead of relying on courts to protect individuals’ ability to repair, advocates for Congress to intervene and pass right to repair legislation at the federal level. A brief review of caselaw involving the intersection of copyright and contract law makes clear that relying on preemption by § 301 of the Copyright Act or other forms of preemption currently in existence are insufficient to fully address the problem. The next Sections will demonstrate that even if the Librarian of Congress were given the authority to exempt the “trafficking” of TPM circumvention tools, companies would be able to stifle repair via EULAs and contract law.

C. CASELAW DEVELOPMENT REGARDING THE USE OF EULAS TO ENFORCE
COPYRIGHT PROTECTIONS BEYOND THE SCOPE OF THE
COPYRIGHT ACT AND THE DMCA

In *ProCD v. Zeidenberg*, the court declined to apply § 301 preemption to the licensing agreement at issue and allowed ProCD to proceed with its breach of contract claim against Zeidenberg.¹⁰⁸ That is, the court allowed ProCD to bring both a contract and copyright claim. Zeidenberg purchased a consumer copy of phonebook software created by ProCD, and then copied its contents to use in his own online commercial phonebook enterprise.¹⁰⁹ The court first determined that the licenses accompanying the software were in fact treated as contracts, and were enforceable.¹¹⁰ In considering whether § 301 preemption was applicable, the court determined that rights protected by contract are not always “equivalent to any of the exclusive rights within the

other audiovisual work, to display the copyrighted work publicly; and (6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

Id. § 106.

106. Kathleen K. Olson, *Preserving the Copyright Balance: Statutory and Constitutional Preemption of Contract-Based Claims*, 11 COMM. L. & POL’Y 83, 84 (2006).

107. *Id.* at 86.

108. *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1455 (7th Cir. 1996).

109. *Id.* at 1449.

110. *Id.* at 1450–51.

general scope of copyright” and held that ProCD was not preempted from bringing a breach of contract claim against Zeidenberg in addition to its copyright infringement claim.¹¹¹

The approach taken in *ProCD* was followed shortly after in *Architectronics, Inc. v. Control Systems Inc.*, where the court considered breach of contract and tortious interference with contract claims in addition to claims of copyright infringement.¹¹² The defendants attempted to “argue that [the] plaintiff’s breach of contract claims are preempted under the Copyright Act because they are duplicative of the claims for copyright infringement.”¹¹³ The court distinguished the protection offered by the Copyright Act from the protection offered against breach of contract by arguing that the contract claim contained an “extra element” (i.e., a “promise by the defendant”).¹¹⁴ In the end, the court affirmed the “extra element” analysis and stated “the consensus among courts and commentators appears to be that breach of contract claims are qualitatively different from claims for copyright infringement and therefore are not preempted.”¹¹⁵

In *Micro Focus (US), Inc. v. Genesys Software Systems, Inc.*, the *ProCD* and *Architectronics* approach was again endorsed by the court.¹¹⁶ The court in *Micro Focus* noted that “[a] majority of courts to address the issue have found that claims for breach of contract in the software licensing context are not preempted by the Copyright Act.”¹¹⁷

These three cases help to demonstrate that contract law remains a viable method for corporations to pursue copyright enforcement where the actions taken are both copyright violations and violations of license agreements due to the “extra element” in the license agreement. However, in cases where the actions taken by the individual or corporation are *not* copyright violations, corporations are still able to pursue contract-based lawsuits against those who violate the EULA’s terms.

In *Bowers v. Baystate Technologies, Inc.*, the court considered a situation in which Baystate Technologies had reverse engineered a piece of computer

111. *Id.* at 1454–55. It is worth noting however, that the court in *ProCD* clarified that they were not adopting a per se rule that all contracts are immune from § 301 preemption, stating “we think it prudent to refrain from adopting a rule that anything with the label ‘contract’ is necessarily outside the preemption clause: the variations and possibilities are too numerous to foresee.” *Id.* at 1455.

112. *Architectronics, Inc. v. Control Sys., Inc.*, 935 F. Supp. 425, 438 (S.D.N.Y. 1996).

113. *Id.*

114. *Id.* (quoting *Comput. Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 716 (2d Cir. 1992)). Interestingly, the court points to a draft of § 301 of the Copyright Act which included a list of claims which would not be preempted—that list included claims for breach of contract. *Id.* at 440.

115. *Id.* at 441.

116. *See Micro Focus (US), Inc. v. Genesys Software Sys., Inc.*, No. 14-14049-NMG, 2015 WL 1523606, at *3 (D. Mass. Apr. 3, 2015).

117. *Id.*

aided design software designed by Bowers.¹¹⁸ In its defense, Baystate alleged “that the Copyright Act preempts the prohibition of reverse engineering embodied in . . . [the] shrink-wrap license agreement[[]],” however the court disagreed.¹¹⁹ The Federal Circuit found that Bowers’ contract claim was not preempted by § 301 of the Copyright Act, even though it noted under the Copyright Act, and specifically § 1201 (f) of the DMCA, reverse engineering was a permissible action.¹²⁰ The court determined that as “the contract in this case broadly prohibits any ‘reverse engineering’ of the subject matter covered by the shrink-wrap agreement” and this agreement had been breached, it must uphold the jury’s determination that there was in fact a breach of contract.¹²¹ The *Bowers* decision is significant because it clarified courts are willing to allow breach of contract claims based on licensing agreements, even if the acts prohibited in the licensing agreement are not themselves copyright violations.¹²² This demonstrates, that even if Congress were to permit exemptions to be made to “trafficking” of TPM circumvention tools, users and the developers could still be liable for violations of EULAs if the terms proscribe TPM circumvention.

D. WORLD OF WARCRAFT TPM CIRCUMVENTION AND ITS IMPLICATION FOR THE RIGHT TO REPAIR

Returning to TPM circumvention tools covered under § 1201 of the DMCA, consider the decision in *MDY Industries, LLC v. Blizzard Entertainment, Inc.*¹²³ Blizzard, the creator of the popular online game World of Warcraft,¹²⁴ sued MDY over its popular “bot” software “Glider” which was being used to

118. *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317, 1321–22 (Fed. Cir. 2003).

119. *Id.* at 1323.

120. *Id.* at 1325–26. The relevant portion of § 1201 (f) of the DMCA provides:

Notwithstanding the provisions of subsection (a) (1) (A), a person who has lawfully obtained the right to use a copy of a computer program may circumvent a technological measure that effectively controls access to a particular portion of that program for the sole purpose of identifying and analyzing those elements of the program that are necessary to achieve interoperability of an independently created computer program with other programs, and that have not previously been readily available to the person engaging in the circumvention, to the extent any such acts of identification and analysis do not constitute infringement under this title.

17 U.S.C. § 1201 (f) (1) (2012).

121. *Bowers*, 320 F.3d at 1326.

122. For a more detailed discussion of the *Bowers* decision and its implications for copyright and contract law, see Olson, *supra* note 106, at 109–11. In her article, Olson points out that the *Bowers* decision is significant in that the “court went [a step] further than the . . . [c]ourt in *ProCD*” as its “rule . . . would preclude from preemption any contract that prohibits reverse engineering, despite past recognition by the Federal Circuit Court and other courts that reverse engineering is a legitimate fair use otherwise protected by the Copyright Act.” *Id.* at 110–11.

123. *MDY Indus., LLC v. Blizzard Entm’t, Inc.*, 629 F.3d 928, 942–43 (9th Cir. 2010).

124. *Company Profile*, BLIZZARD ENT., <http://us.blizzard.com/en-us/company/about/profile.html> [<https://perma.cc/NT6K-4XXD>].

cheat in the online game.¹²⁵ The Glider bot was created to automate the process of playing World of Warcraft and facilitate the “leveling up” of characters while users were not actually playing.¹²⁶ Glider, although it was a piece of software used to cheat the leveling system in World of Warcraft, is essentially a type of TPM circumvention software. In order for Glider to function, it needed to avoid detection by “Warden”: Blizzard’s program designed to prevent unauthorized software from running on its servers that hosted World of Warcraft.¹²⁷ Thus, Glider needed to circumvent Blizzard’s TPM—Warden—to access the software located on the World of Warcraft servers and enable Glider users to cheat the game.

Blizzard asserted claims “for, *inter alia*, contributory and vicarious copyright infringement, violation of DMCA § 1201(a)(2) and (b)(1), and tortious interference with contract.”¹²⁸ In determining whether MDY had violated § 1201, the court identified six textual elements which must be satisfied.¹²⁹ In order to violate § 1201(a)(2) an individual must “(1) traffic[] in (2) a technology or part thereof (3) that is primarily designed, produced, or marketed for, or has limited commercially significant use other than (4) circumventing a technological measure (5) that effectively controls access (6) to a copyrighted work.”¹³⁰ Since the court found that MDY had in fact violated the proscriptions of § 1201(a)(2) and satisfied the six textual elements above, it affirmed the lower court’s “entry of a permanent injunction against MDY to prevent future § 1201(a)(2) violations.”¹³¹ More importantly, however, the court reversed the lower court’s order granting summary judgment to MDY on Blizzard’s tortious interference claim,¹³² thus demonstrating that distribution of TPM circumvention software could, in fact, leave the distributor liable under contract law.

Unfortunately, there was little further judicial decision-making in this case. In fact, a settlement was reached between MDY and Blizzard although the details of the agreement are unknown.¹³³ Regardless, this case is extremely important in its implications for TPM circumvention software and the future

125. *MDY Indus., LLC*, 629 F.3d at 934–35.

126. *Id.* at 935–37.

127. *Id.* at 936.

128. *Id.* at 937.

129. *Id.* at 953.

130. *Id.*

131. *Id.* at 953–54.

132. *Id.* at 957–58. A complete discussion of the use of tortious interference with contract claims is beyond the scope of this Note. For a more in-depth analysis of the issue, see generally Jessica Gallegos, Note, *A New Role for Tortious Interference in the Digital Age: A Model to Enforce End User License Agreements*, 38 FLA. ST. U. L. REV. 411 (2011) (discussing and criticizing the current use of tortious interference claims as a method of enforcing EULAs).

133. Mathew McCurley, *The Lawbringer: Glider’s Story Ends*, ENGADGET (Oct. 7, 2011), <https://www.engadget.com/2011/10/07/the-lawbringer-gliders-story-ends> [<https://perma.cc/2XC6-4KZY>].

of the right to repair. The decision in this case, along with the decisions in *Bowers*, *Architectronics*, and *ProCD*, demonstrate a willingness by the courts to allow for contractual claims to be asserted in addition to, or in lieu of, copyright violation claims. *MDY* is especially important because it demonstrates that courts are willing to entertain contract claims relating to distribution of TPM circumvention software.

E. THE CURRENT STATE OF THE RIGHT TO REPAIR UNDER EXISTING LAW

The string of cases above demonstrates that even if the provisions of § 1201 of the DMCA were amended to allow for the Librarian of Congress and the Register of Copyrights to grant exemptions to the trafficking of TPM circumvention software, those who distribute the software would still likely be liable for contract-based claims. Under the courts' current interpretation of § 301 of the Copyright Act, even if there were no longer any copyright violation claims at issue, corporations could, through the use of EULAs, prosecute those who are attempting to facilitate repairs by developing and distributing software to circumvent TPMs during the repair process.¹³⁴ The existing framework of copyright law is thus insufficient to properly address the demands of the right to repair movement.¹³⁵ Something more must be done.

In sum, courts have been generally open to the use of contract law to enforce what might otherwise be copyright related claims. Therefore, even if the Copyright Act were to be amended to allow for the trafficking in TPM

134. For a more in depth discussion of the availability of contract law to enforce the terms of EULAs, see generally Robert W. Gomulkiewicz, *Is the License Still the Product?*, 60 ARIZ. L. REV. 425, 451–57 (2018), discussing the implications of the Supreme Court's 2017 decision in *Impression Products, Inc. v. Lexmark International, Inc.* on the ability to use contract law to enforce EULAs. Gomulkiewicz notes that although the Court did not rely on contract law to enforce a EULA, "it seems to be sending a strong positive signal about the use of contracts in technology businesses." *Id.* at 451–52. He also points out companies' hesitance to sue their customers for breaching the terms of EULAs, but points to the availability of tortious interference claims against third parties as a ready alternative. *Id.* at 452. This is precisely what Blizzard did in the *MDY* case. Instead of suing all of the individual users of the "Glider" software, it went after the developer. See *MDY Indus., LLC*, 629 F.3d at 937. Not only was this more effective, but it also was less damaging to Blizzard's reputation. It is not a very favorable position if software companies are suing its customers.

135. See generally Lydia Pallas Loren, *Slaying the Leather-Winged Demons in the Night: Reforming Copyright Owner Contracting with Clickwrap Misuse*, 30 OHIO N.U. L. REV. 495 (2004) (discussing the extremes to which software companies have been taking the terms included in their EULAs and their attempts at enforcing them through contract law). Loren comments that copyright owners are aware of the fact that courts recognize the EULAs enforceable contracts and "have been flexing their muscles, adding to these contracts clauses that seek to obtain advantages that may not be socially beneficial." *Id.* at 496. She notes "that . . . current legal doctrines available to invalidate these overreaching provisions or to strike claims asserted for their breach are insufficient." *Id.* at 499–500. Loren concludes that the courts should apply instead "a rebuttable presumption of misuse" when copyright owners attempt to use licensing agreements to enforce copyright laws. *Id.* at 522.

circumvention software, OEMs and others would still be able to stifle the right to repair movement by blocking the distribution of these vital pieces of software through the use of EULAs and contract law. For this precise reason, steps need to be taken at the federal level to protect the right to repair.

IV. THE NEED FOR FEDERAL INTERVENTION IN THE RIGHT TO REPAIR MOVEMENT

This Part explains why action is needed at the federal level due to the individual states being overpowered by the corporate interests at stake in the right to repair movement. Lobbying by interested companies has impermissibly interfered with the state legislative process. For that reason, this Part also proposes suggestions to Congress should it choose to act and protect the public's right to repair at the federal level. It is important to consider not only ensuring that individuals are legally allowed to effectuate their own repairs, but also that corporations are not able to circumvent the requirements by making it prohibitively difficult to perform the repairs. Taking this into account, this Part concludes with a discussion of the draft right to repair bill included in the Appendix and explains how it expands upon the legislation previously proposed by state legislators.

A. *INDIVIDUAL STATES ARE BEING OVERPOWERED BY THE CORPORATIONS*

The best course of action for ensuring that customers and third-party repair businesses have their right to repair protected is not to hope states individually pass legislation, but instead for Congress to intervene and provide protection nationwide. As evidenced by the lack of success of the state-level right to repair bills,¹³⁶ the lobbying by corporations against them has been very effective. While much of the lobbying against the right to repair movement has occurred behind closed doors, the hearing in Nebraska illustrates the overall structure of some of the interested corporations' arguments.

Among the most compelling arguments against individual states passing right to repair legislation was the comment made by Kim Robak on behalf of AT&T. As described in Section II.E, Robak claimed that large corporations opposed to the right to repair legislation, would simply refrain from selling their products in the state of Nebraska if said legislation were passed.¹³⁷ She even went so far as to suggest exactly what this Note proposes—that legislation protecting the right to repair is best left to Congress.¹³⁸

Robak claimed:

[I]t doesn't make a whole lot of sense to introduce [right to repair legislation] and pass it only in the state of Nebraska because it does

136. See *supra* note 11 and accompanying text.

137. *Nebraska Hearing*, *supra* note 70, at 56 (statement of Kim Robak, Representative of AT&T).

138. *Id.*

harm those individuals who create these products and have to provide those codes. [It m]akes a whole lot of sense, if you want to do it, to look at this from a federal level.¹³⁹

Robak pointed out a key element in the battle for the right to repair—these corporations are so large the loss of an entire state’s worth of customers is insignificant.

In 1932, Justice Brandeis stated “[i]t is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.”¹⁴⁰ However, Justice Brandeis’ famous words ring hollow in the case of the right to repair movement due to the tremendous influence controlled by the companies lobbying against this movement. While the “states as laboratories” approach to inspiring change at the federal level has functioned well in other cases—e.g., the legalization of gay marriage—the size of the corporations opposed to securing a right to repair frustrates this system. Instead, the federal government needs to act first in order to combat the size of these corporations and their immense amount of power.¹⁴¹ Further, there is some precedent for Congress stepping in to combat the power of massive corporations.

Antitrust law is a prime example of the federal government acting in order to protect consumers against the power of private corporations. When Congress enacted the Sherman Act it was attempting

to correct the growing evils of “voting trusts” and other forms of corporate control that threatened to destroy the competitive American economy The motivation behind the legislation was Congress’s belief that the control of our economy was being swept

139. *Id.*

140. *New State Ice Co. v. Leibmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).

141. To contextualize the amount of power these companies wield, it may be helpful to look at their values in comparison to the GDP of entire states. For example, the total market value of Apple as of this writing was \$1.401 trillion. Apple Stock Market Information, YAHOO! FIN., <https://finance.yahoo.com/quote/AAPL?p=AAPL> [<https://perma.cc/3929-7TAB>]. The total market value of Microsoft was \$1.417 trillion. Microsoft Stock Market Information, YAHOO! FIN., <https://finance.yahoo.com/quote/MSFT?p=MSFT> [<https://perma.cc/KEX4-RTUK>]. The total market value of John Deere was \$52.205 billion. John Deere Stock Market Information, YAHOO! FIN., <https://finance.yahoo.com/quote/DE?p=DE> [<https://perma.cc/F34W-ZDFJ>]. The total market value of AT&T was \$276.834 billion. AT&T Stock Market Information, YAHOO! FIN., <https://finance.yahoo.com/quote/T?p=T> [<https://perma.cc/5AJV-8XL5>]. And the total market value of CNH Industrial was \$12.946 billion. CNH Industrial Market Information, YAHOO! FIN., <https://finance.yahoo.com/quote/CNHI?p=CNHI> [<https://perma.cc/SCS7-NTCC>]. In comparison, the GDP of the entire state of Iowa was \$193.756 billion in the first quarter of 2018. BUREAU OF ECON. ANALYSIS: U.S. DEP’T OF COMMERCE, GROSS DOMESTIC PRODUCT BY STATE: FIRST QUARTER 2018 tbl.3 (July 24, 2018), available at https://www.bea.gov/system/files/2018-08/qgdprstate0718_2.pdf [<https://perma.cc/6H46-P5BC>]. California, the biggest state economy in the United States, had a GDP of \$2.827 trillion in the first quarter of 2018. *Id.*

into the hands of these corporate giants: the chief culprit being the infamous Standard Oil Trust.¹⁴²

Seeking to combat the same problems of corporate giants exerting too much power over the economies and legislatures of the states, the federal government should again step in and enact federal right to repair legislation.¹⁴³

B. SUGGESTIONS FOR CONGRESS WHEN ADOPTING RIGHT TO REPAIR LEGISLATION

As discussed in Part II, there have been essentially four different types of Right to Repair legislation introduced at the state level. This Note argues that the Washington version comes the closest to addressing all of the needs of individuals seeking to repair devices, while simultaneously incorporating environmental concerns tied to the consumption of electronic devices. Therefore, this Note suggests that Congress should adopt a federal version of the Right to Repair legislation most similar to that introduced in Washington, yet incorporating elements of several versions of previously introduced legislation. A draft of this legislation is included in the Appendix.

The Wyoming version of the Right to Repair statute is insufficient to meet the needs of all consumers. It is too narrow in scope and addresses only the needs of farmers seeking to repair their farm equipment.¹⁴⁴ It did however, incorporate a noteworthy feature of a civil penalty of \$500 in every instance where the OEM failed to comply with the statute.¹⁴⁵ As this Note should have made obvious, the Right to Repair movement is not solely focused on farm equipment. While it is an important element, farm equipment should not be the only category of product covered. The California version of the statute is similarly deficient in that it fails to cover motor vehicle dealers or manufacturers.¹⁴⁶ Although there is a memorandum of understanding in place covering the right to repair for motor vehicles, it would be illogical to formally adopt Right to Repair legislation and leave out the automotive industry. Like the Wyoming statute, the California statute adopts a civil penalty, however, they do so in a much more complete manner.¹⁴⁷

142. 1 JULIAN O. VON KALINOWSKI ET AL., ANTITRUST LAWS AND TRADE REGULATION § 1.02 (2d ed. 2019).

143. A discussion of Antitrust law is beyond the scope of this Note. See generally HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE (5th ed. 2016), for a more in-depth description of the origins and development of Antitrust law in the United States.

144. See H.B. 0199, 2017 Leg., Gen. Sess. (Wyo. 2017).

145. *Id.* While I believe the incorporation of a civil penalty in the statute is an appropriate measure, the version of the Wyoming statute gives very little information on how the civil action must be brought, nor does it specify to whom the payment will be made. See *id.*

146. Assemb. B. 2110, 2017 Leg., Reg. Sess. § 42488.4(c) (Cal. 2018).

147. See *id.* § 42488.5(a). The bill provides that

[a] city, county, city and county, or the state may impose civil liability on a person or

Additionally, the version of the Right to Repair legislation introduced in Iowa also falls short. While it has a broader scope than either the California or Wyoming versions, as it covers all “digital electronic products”—which it defines as “a part or product containing a microprocessor,”¹⁴⁸—it fails to legislate any degree of reparability into the products themselves. This is the vital step taken in the Washington version of the Right to Repair legislation.

The Washington version of the Right to Repair legislation includes a legislated “degree of reparability” requirement. In relevant part, the bill states:

Original manufacturers of digital electronic products sold on or after January 1, 2019, in Washington state are prohibited from designing or manufacturing digital electronic products in such a way as to prevent reasonable diagnostic or repair functions by an independent repair provider. Preventing reasonable diagnostic or repair functions includes permanently affixing a battery in a manner that makes it difficult or impossible to remove.¹⁴⁹

Additionally, the Washington bill includes a degree of retroactivity, in that it requires OEMs to comply with requirements of the bill for all qualifying devices sold after January 1, 2012.¹⁵⁰ While the Washington bill is not perfect—for example it also fails to include motor vehicle manufacturers within its scope¹⁵¹—its “degree of reparability” requirement is an essential step required to help preserve the future of repair and the future of the planet.

Without a legislatively mandated “degree of reparability” there is nothing to prevent OEMs from simply overengineering products and further complicating the repair process on a physical level. iFixit provides “reparability” scores along with its guides to facilitate repairs.¹⁵² iFixit explains that its scores are influenced by the cost and facility of repair, noting that “[p]oints are docked based on the difficulty of opening the device, the types of fasteners found inside, and the complexity involved in replacing major

entity that knowingly violated this chapter, or reasonably should have known that it violated this chapter, in the amount of one thousand dollars (\$1,000) per day for the first violation, two thousand dollars (\$2,000) per day for the second violation, and five thousand dollars (\$5,000) per day for the third and subsequent violations.

Id.

148. H.F. 556, 87th Gen. Assemb., Reg. Sess. § 1(3) (Iowa 2017). It is worth noting that the Iowa legislation is deficient in another way. Like the other versions of Right to Repair legislation, the Iowa version includes as civil remedy for the violation of its provision. *Id.* § 3. However, the bill places the onus on the independent service providers to “notify the manufacturer of the alleged violation in writing.” *Id.* While it does allow for the Attorney General to intervene if the manufacturer is not responsive, forcing the independent service providers to square off against corporate giants in cases of violations seems to be asking too much. *See id.*

149. H.B. 2279, 65th Leg., 2018 Reg. Sess. § 3(6) (Wash. 2018).

150. *Id.* § 3.

151. *Id.* § 5(1).

152. *Smartphone Repairability Scores*, iFIXIT, <https://www.ifixit.com/smartphone-repairability> [<https://perma.cc/J2JE-P9KB>].

components.”¹⁵³ The Google Pixel smartphone, originally released in 2016, was given a score of seven out of ten.¹⁵⁴ The Google Pixel 3, released in 2018, was given a score of just four out of ten with iFixit noting that “[t]o service any component, you’ll have to painstakingly un-glue (and later re-glue) the glass rear panel.”¹⁵⁵ The original Apple iPad, released in 2010, received a score of six out of ten while the version of the iPad released in 2018 received a two out of ten.¹⁵⁶ In a span of just eight years, the iPad went from a moderately repairable device to one that is extremely difficult to repair on one’s own. Additionally, changes to Apple’s newest MacBook Pro had the effect of transforming a \$6 repair into a \$600 repair.¹⁵⁷ If Congress were to implement a Right to Repair bill containing a “degree of reparability” requirement, like that of Washington’s bill, it could help stop this progression of overengineering devices and complicating repairs.¹⁵⁸

This “degree of reparability” requirement is crucial not only to prevent companies from efficiently stopping repairs by independent parties, but also slow the production of e-waste. In 2017 alone, an estimated 1.5 billion smartphones were sold worldwide¹⁵⁹ and, presumably, each time a new device is purchased, an old device is disposed of in some manner. As noted in Part II, the EPA estimates Americans produced 3,100,000 tons of e-waste in 2015 with only an estimated 39.7 percent of that amount recycled.¹⁶⁰ By requiring a certain “degree of reparability” in newly manufactured phones, the Right to Repair legislation could help reduce the number of electronic products discarded each year by making it easier to maintain products consumers have already purchased.

153. *Id.*

154. *Id.*

155. *Id.* This trend is not restricted to just cell phones, however. The latest version of Apple’s popular MacBook Pro received a score of just 1/10. *Laptop Repairability Scores*, iFIXIT, <https://www.ifixit.com/laptop-repairability> [https://perma.cc/4R2A-PNLF].

156. *Tablet Repairability Scores*, iFIXIT, <https://www.ifixit.com/tablet-repairability> [https://perma.cc/369X-SQMK]. iFixit notes that the iPad 6 model “[a]s in all iPads, [has] a solid barrier of very strong adhesive [which] bars the way to any repairs, and makes rework a sticky proposition.” *Id.*

157. Taylor Dixon, *The Design Flaw Behind MacBook Pro’s “Stage Light” Effect*, iFIXIT (Jan. 22, 2019), <https://www.ifixit.com/News/12903/flexgate> [https://perma.cc/5PNE-3TBP].

158. It should be noted that not all companies are complicating the repair process to the point of near impossibility. Both Dell and HP released laptop computers in 2017 which received 10/10 scores from iFixit. *Laptop Repairability Scores*, *supra* note 155. Further, HP released a tablet in 2017 which received a 9/10 score. *Tablet Repairability Scores*, *supra* note 156. Finally, Xiaomi released a smartphone in 2015 which received an 8/10 from iFixit. *Smartphone Repairability Scores*, *supra* note 152.

159. Rob van der Meulen & Thomas McCall, *Gartner Says Worldwide Sales of Smartphones Recorded First Ever Decline During the Fourth Quarter of 2017*, GARTNER (Feb. 22, 2018), <https://www.gartner.com/en/newsroom/press-releases/2018-02-22-gartner-says-worldwide-sales-of-smartphones-recorded-first-ever-decline-during-the-fourth-quarter-of-2017> [https://perma.cc/BK9R-XJ3W].

160. *Durable Goods: Product-Specific Data*, *supra* note 24.

Thus, this Note advocates for Congress to adopt a bill which combines elements of the Iowa, Washington, and California versions of the Right to Repair bill. The draft bill in the Appendix mirrors the wide scope of Iowa's bill and covers all "digital electronic product[s]"¹⁶¹ (including automobiles) and incorporates the legislatively mandated "degree of reparability" found in the Washington bill.¹⁶² The draft bill, however, takes Washington's reparability requirement a step further by including affixing screens or covers to devices in a way that impedes repairs.¹⁶³ The draft bill also includes the limitations discussed above that prevent OEMs from being required to disclose trade secrets or provide parts that OEMs do not already supply to authorized service providers.¹⁶⁴ Finally, this bill incorporates a civil penalty for OEMs who violate its terms, as present in the California version of Right to Repair legislation.¹⁶⁵ Through federal adoption of a bill similar to the draft included in the Appendix, Congress will be able to ensure preemption of all contract suits aimed at enforcing EULAs and protect consumers' right to repair their products.

V. CONCLUSION

As software enabled devices inch closer to ubiquity and individuals become ever more reliant on them, the need for a secure right to repair grows simultaneously. If left to their own devices, corporations producing these devices will establish monopolies on their repair and will be able to force individuals' into purchasing new devices or paying excessive amounts for repairs. As evidenced by the lack of traction in state legislatures, Congress should step in and enact federal Right to Repair legislation. In doing so, Congress must be mindful not only of protecting consumers' right to repair all products they have purchased, but also to the environmental impact of our disposable culture. Through passage of a national Right to Repair law covering all software enabled devices and requiring a "degree of reparability," Congress will be able to effectively protect the public's right to repair while simultaneously protecting the environment.

161. See *infra* Appendix, Draft Right to Repair Bill § 1(a).

162. See *infra* Appendix, Draft Right to Repair Bill § 4.

163. See *infra* Appendix, Draft Right to Repair Bill § 4.

164. See *infra* Appendix, Draft Right to Repair Bill § 3(c).

165. See *infra* Appendix, Draft Right to Repair Bill § 2(b), (c).

APPENDIX

Draft Right to Repair Bill

Section 1: Definitions

- (a) “Digital Electronic Product” means [any] part or product containing a microprocessor originally manufactured for distribution and sale in the United States.”¹⁶⁶
- (b) “Authorized Service Provider” means any individual or business who has entered into an agreement with the original equipment manufacturer to effectuate service of or repair to that manufacturer’s digital electronic products on behalf or in the name of the original equipment manufacturer.
- (c) “Independent Service Provider” means any individual or business who has not entered an agreement with the original equipment manufacturer but provides service of or repair to digital electronic products for their own benefit or for the benefit of others, but not on behalf of or in the name of the original equipment manufacturer.
- (d) “Owner” means an individual or business who has lawfully purchased or leased any digital electronic product in the United States.
- (e) “Original Equipment Manufacturer” means an individual or business who designs and sells or leases digital electronic products to individuals or businesses.
- (f) “Motor [V]ehicle” means any vehicle that is designed for transporting persons or property on a street or highway and is certified by the motor vehicle manufacturer under all applicable federal safety and emissions standards and requirements for distribution and sale in the United States.”¹⁶⁷
- (g) “Eligible Motor Vehicle” means any vehicle described in (1)(g) that itself contains a microprocessor or contains a part which contains a microprocessor.
- (h) “Fair and Reasonable Terms” “means at costs and terms, including convenience of delivery, and including rights of use, equivalent to what is offered by the original equipment manufacturer to an authorized [service] provider, using the net costs that would be incurred by an authorized [service] provider in obtaining an equivalent part or tool or documentation from the original equipment manufacturer, accounting for any discounts,

166. H.F. 556, 87th Gen. Assemb., Reg. Sess. § 1(3) (Iowa 2017).

167. H.B. 2279, 65th Leg., 2018 Reg. Sess. § 2(8)(a) (Wash. 2018).

rebates, or other incentive programs in arriving at the actual net costs. For documentation, including any relevant updates, ‘fair and reasonable terms’ means at no charge, except that, when the documentation is requested in physical printed form, a charge may be included for the reasonable actual costs of preparing and sending the copy.”¹⁶⁸

(i) “Part” or “Service Part” means a part intended for repair or service of the digital electronic products manufactured by the original equipment manufacturer.

(j) “Documentation” means a manual, schematic diagram, reporting output, or service code description provided to the authorized [service] provider for purposes of effecting repair.”¹⁶⁹

Section 2: Application

(a) Original equipment manufacturers of digital electronic products and eligible motor vehicles sold in the United States must comply with the requirements of this act for all products sold on or after January 1, 2014.

(b) All original equipment manufacturers who fail to comply with the requirements of this act are subject to a civil penalty of five hundred dollars for each individual incident of noncompliance.¹⁷⁰

(c) Civil penalties imposed under the authority of this act shall be paid to the Federal Trade Commission’s Bureau of Consumer Protection.

Section 3: Requirements for Original Equipment Manufacturers

(a) Original equipment manufacturers shall make available to all owners, independent service providers, and authorized service providers for the purposes of repair, service, or maintenance, all documentation and shall make available for purchase, on fair and reasonable terms, all parts for eligible digital electronic products and motor vehicles covered by this Act.

“(b) For equipment that contains an electronic security lock [, technological protection measure,] or other security-related function, the original equipment manufacturer shall make available to the owner and to independent [service] providers, on fair and reasonable terms, any special documentation, tools, and parts needed to reset the lock or function when disabled in the course of

168. REPAIR.ORG, MODEL STATE RIGHT-TO-REPAIR LAW § 2(e) (2018), *available at* <https://repair.org/s/Right-to-repair-Model-state-law-7-24-18.docx> [<https://perma.cc/7Z3Z-64KM>].

169. Assemb. B. 2110, 2017 Leg., Reg. Sess. § 42488.2(b) (Cal. 2018).

170. *Id.* § 42488.5.

diagnosis, maintenance, or repair of the equipment. Such documentation, tools, and parts may be made available through appropriate secure release systems.”¹⁷¹

(c) Nothing in this section requires an original equipment manufacturer to make available any parts:

(1) which are no longer available to the manufacturer, provided that the parts in question are used exclusively in a device sold before January 1, 2014.

(2) which the original equipment manufacturer does not provide to authorized service providers.

Section 4: Minimum Degree of Reparability

(a) Original equipment manufacturers of digital electronic products are prohibited from manufacturing or selling in the United States after January 1, 2024 any digital electronic products that fail to meet requirements laid out in this section.

(b) Digital electronic products sold after January 1, 2024 must not impede or complicate the repair process by:

(1) “permanently affixing a battery in a manner that makes it difficult or impossible to remove.”¹⁷²

(2) affixing the screen or other covering to the digital electronic product in a manner that makes it difficult or impossible to remove and thus acts as an impediment to repairs, service, or maintenance.

Section 5: Limitations

“Nothing in this section shall be construed to do any of the following:

[(a)] Require a manufacturer to divulge information entitled to protection as a trade secret.

[(b)] Interfere with, contradict, or alter the terms of an agreement executed between a manufacturer and an authorized repair provider.”¹⁷³

171. REPAIR.ORG, MODEL STATE RIGHT-TO-REPAIR LAW § 3(b) (2018), *available at* <https://repair.org/s/Right-to-repair-Model-state-law-7-24-18.docx> [<https://perma.cc/2X46-NJ7V>].

172. H.B. 2279, 65th Leg., 2018 Reg. Sess. § 3(6) (Wash. 2018).

173. H.F. 556, 87th Gen. Assemb., Reg. Sess. § 2(5) (Iowa 2017).